

AMENDMENTS TO THE DRAWINGS

The attached one sheet of drawings includes changes to Figure 3. This sheet, which includes a proposed drawing change to Figure 3, replace the original sheet also including Figure 3. Reference "Pulse Train Type 332" has been changed to "Pulse Train Type 330"

Attached is a complete set of formal drawings which replace the original drawings originally filed with this application. These formal drawings incorporate the above-noted changes to Figure 3.

REMARKS

1. In response to the final Office Action mailed February 26, 2004, Applicant respectfully requests reconsideration. Claims 1-29 and 44-65 were last presented for examination in this application. In the Office Action claims 1-29 and 44-65 were rejected. By the foregoing Amendments, claims 1, 8, 9, 25, 44, 49, 50, 52, 54, 57, 59-62 and 64 have been amended. No claims have been added or canceled. Thus, upon entry of this paper, claims 1-29 and 44-65 will remain pending in this application. Of these 51 claims, three (3) claims (claims 1, 25, and 44) are independent. Based on the above Amendments and following Remarks, Applicant respectfully requests that the outstanding objections and rejections be reconsidered, and that they be withdrawn.

2. The Examiner notes in paragraph 1 of the Office Action that the listing of claims was not correctly presented in the Amendment filed on January 08, 2004. Applicant has found that certain claims intended to have been changed in the Amendment filed on January 08, 2004 were incorrectly labeled as 'Previously Presented' instead of 'Currently Amended,' and the intended changes were not properly marked in the text. Applicant has also found that several changes requested in the Amendment filed on February 10, 2003 were not reflected in the Amendment filed January 08, 2004. The problems have been corrected in the current Amendment.

Objections to the Drawings

3. The Examiner has objected to drawing Figures 3 and 9 under 37 CFR § 1.84(p)(5) for missing reference number "303", and reference numbers "900", "916", "922", and "928", respectively, which are mentioned in the specification. In the Response filed January 08, 2004, Applicant argued that the reference numbers were included in the figures, but the Examiner has maintained the objection in the current Office Action. The Examiner further explains in paragraph 14 of the current Office Action that the Examiner sees in the figures the mentioned items, but that the labels are missing. To resolve this issue, Applicant submits as Appendix A a copy of the informal drawings filed with the original Application, with the disputed numbers highlighted. Because Applicant is unsure if the Examiner is referring to the informal drawings or the formal drawings, Applicant also submits in Appendix A a copy of the formal drawings, with the disputed reference numbers highlighted.

4. Applicant identified an error in Figure 3. An informal drawing with red-lines correcting the error is submitted with this Amendment as Appendix B. In Figure 3, the reference Pulse Train Type 332 has been changed to Pulse Train Type 330. After receiving approval by the Examiner for the change, Applicant will submit corrected formal drawings.

5. The Examiner notes in paragraph 3 of the Office Action that the drawings fail to comply with 37 CFR § 1.84(p)(5) because the reference sign "1215" is shown in the drawings but not mentioned in the specification. The specification has been amended to mention this reference numeral. See the change to the specification in the paragraph at page 39, line 6 to page 39, line 10. Withdrawal of this objection is, therefore, respectfully requested.

Objections to the Specification

6. Applicant has amended the specification to correct various informalities including making the specification consistent with the above-noted proposed drawing changes. Entry is respectfully requested.

7. The Examiner objected to the specification due to several informalities. An explanation of the action(s) taken for each objection follows. Applicant respectfully requests that the objections to the specification be withdrawn.

8. On page 39, line 10, "block 1225" has been changed to "block 1215", as recommended by the Examiner.

9. On page 54, line 16, "pulse number 526" has been changed to "pulse number 534", as recommended by the Examiner.

10. On page 54, line 18, the label of "pulse locator" has been changed to "506", as requested by the Examiner.

11. On page 54, line 22, the label of "sort index array" has been changed to "604", as requested by Examiner.

12. On page 55, line 16, the label of "sorted occurrence number" has been changed to "708", as requested by the Examiner.

13. On page 55, line 20, "search index 608" has been changed to "subset index 608" to alleviate the discrepancy pointed out by the Examiner.

14. On page 55, lines 26-27, “pulse number field 706C has been changed to “sorted number field 708C” to correct the discrepancy pointed out by the Examiner.

15. On page 55, line 28, the label of “pulse locator” has been changed to “506”, as requested by the Examiner.

16. On page 56, lines 4-5, “pulse number 526” has been changed to “pulse number 534”, as recommend by the Examiner.

Claim Objections and Rejections Under 35 USC § 112, second paragraph

17. The claims have been objected to and rejected under 35 USC § 112, second paragraph due to various informalities. The claims have been amended in accordance with the Examiner’s suggestions, thereby accommodating the objections and rejections.

18. In claim 50, the phrase “wherein said subset of pulses” has been amended to “wherein said plurality of pulses”. Antecedent basis is provided in claim 44. Applicant respectfully requests withdrawal of this objection.

19. Applicant notes that claims 54, 57, 59, 60-62, and 64 were not correctly presented in the Amendment filed January 08, 2004 to reflect the change of “database” to “data structure”. The forgoing claims were labeled “Previously Presented” in the Amendment filed January 08, 2004, and the changes were not marked in the text. The forgoing claims have been amended to incorporate these amendments. Withdrawal of these objections and rejections is, therefore, respectfully requested.

20. The respective parent claims of 56 and 63 have been amended to provide antecedent basis for the phrase “data structure”, as discussed in paragraph 7 of this Amendment. Withdrawal of these objections and rejections is respectfully requested.

Claim Rejections

21. The Examiner has rejected the claims 1-3, 11, 22, 24, and 44 under 35 USC §102 as being anticipated by U.S. Patent No. 5,222,028 to LaBarre et al. (hereinafter “LaBarre”). The Examiner has also rejected claims 1-29, 44-49, and 51-65 under 35 USC §103(a) as being unpatentable over U.S. Patent No. 5,003,248 to Johnson (hereinafter “Johnson”) alone or in view of secondary references.

22. Claim 1 as amended recites:

A signal measurement system comprising:
an acquisition memory; and
a pulse management system configured to automatically perform a series of pulse measurements on a time-varying analog signal comprising a plurality of pulses, samples of which are stored in the acquisition memory during a single acquisition of the time-varying analog signal, wherein the pulse management system generates and stores in a searchable data structure pulse characteristics comprising *pulse measurement results* of pulse measurements taken of each of the plurality of pulses, and *pulse measurement statistics comprising the results of statistical analyses of at least one of said pulse measurements*.

(See, Amended claim 1, above.)

Applicant respectfully submits that the art of record neither teaches nor suggests Applicant's invention as recited in amended independent claim 1. Withdrawal of the rejections is, therefore, respectfully requested.

23. LaBarre discloses a means to decompose a composite pulse. Pulse samples are stored in a data array for either display or printing. (See, LaBarre, col. 8, lns. 46 – 49.) Storing pulse measurement results and pulse measurement statistics for later use as recited in Applicant's claim 1 are nowhere disclosed, taught or suggested in LaBarre. LaBarre's measurements comprise raw pulse data (see, LaBarre, col. 4, lns. 34-45); they do not include "the results of statistical analyses performed at least one of said pulse measurements". Since LaBarre does not teach or suggest performing statistical analysis, LaBarre cannot teach or suggest storing the results of such statistical analyses in a searchable data structure. For at least these reasons, Applicant respectfully requests that the above rejections be reconsidered and withdrawn.

24. Johnson teaches a means for simultaneously displaying a histogram and a signal on the display of an oscilloscope. (See, Johnson, col. 1, lns. 63-65.) The information stored in Johnson's memory comprises information required to display the signal, and to calculate and display the histogram. This includes information such as pulse amplitude of a given waveform. (See, Johnson, col. 1, lns. 65-68.) No statistical analysis, as recited in Applicant's revised independent claims, is performed, and no pulse measurement statistics are stored in a searchable data structure. For at least these reasons, Applicant respectfully requests that the above rejections be reconsidered and withdrawn.

25. Claim 25 as amended recites:

A signal measurement system comprising:
an acquisition memory; and
pulse management means for automatically performing
a plurality of pulse measurements on a time-varying analog
signal comprising a plurality of pulses, samples of which are
stored in the acquisition memory during a single acquisition of
the time-varying analog signal, and for generating for storage in
a searchable data structure pulse characteristics of each of the
plurality of pulses, wherein for each of the plurality of pulses,
said pulse characteristics comprise *results of pulse
measurements* taken of each of the plurality of pulses, and
pulse measurement statistics comprising the results of
statistical analyses of at least one of said pulse measurements.
(See Amended claim 25, above.)

Applicant respectfully submits, for at least the reasons noted above, that the art of record
neither teaches nor suggests Applicant's invention as recited in amended independent claim
25. Withdrawal of the rejections is therefore respectfully requested.

26. Claim 44 as amended recites:

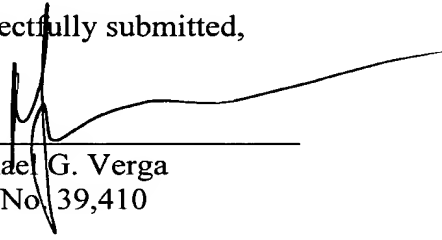
A method for generating a searchable pulse data
structure for storage in a memory apparatus operationally
coupled to a signal measurement system, said data structure
comprising a plurality of signal pulse characteristics of pulses
of time-varying analog signal samples of which are stored in an
acquisition memory of the signal measurement system during a
single acquisition of the time-varying analog signal, the method
comprising the steps of:
1) automatically performing a plurality of pulse
measurements the signal; and
2) generating for storage in a searchable data structure
pulse characteristics of each of the plurality of pulses, wherein
for each of the plurality of pulses, said pulse characteristics
comprise *results of pulse measurements* taken of each of the
plurality of pulses, and *global pulse measurement statistics
comprising the results of statistical analyses of at least one of
said pulse measurements.*
(See Amended claim 44, above.)

Applicant respectfully submits, for at least the reasons noted above, that the art of record neither teaches nor suggests Applicant's invention as recited in amended independent claim 44. Withdrawal of the rejections is therefore respectfully requested.

Conclusion

27. In view of the foregoing, this application should be in condition for allowance. A notice to this effect is respectfully requested.

Respectfully submitted,



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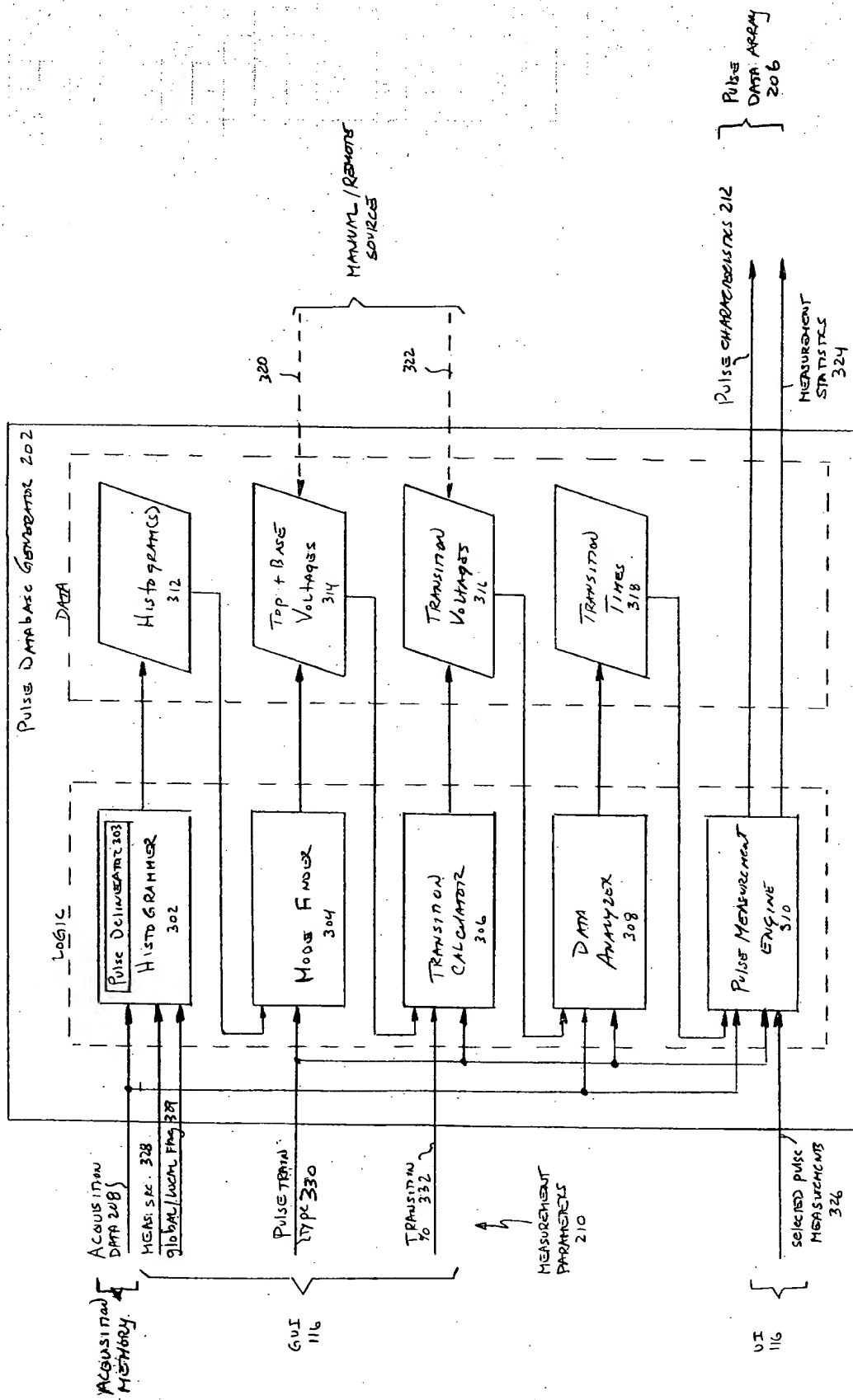
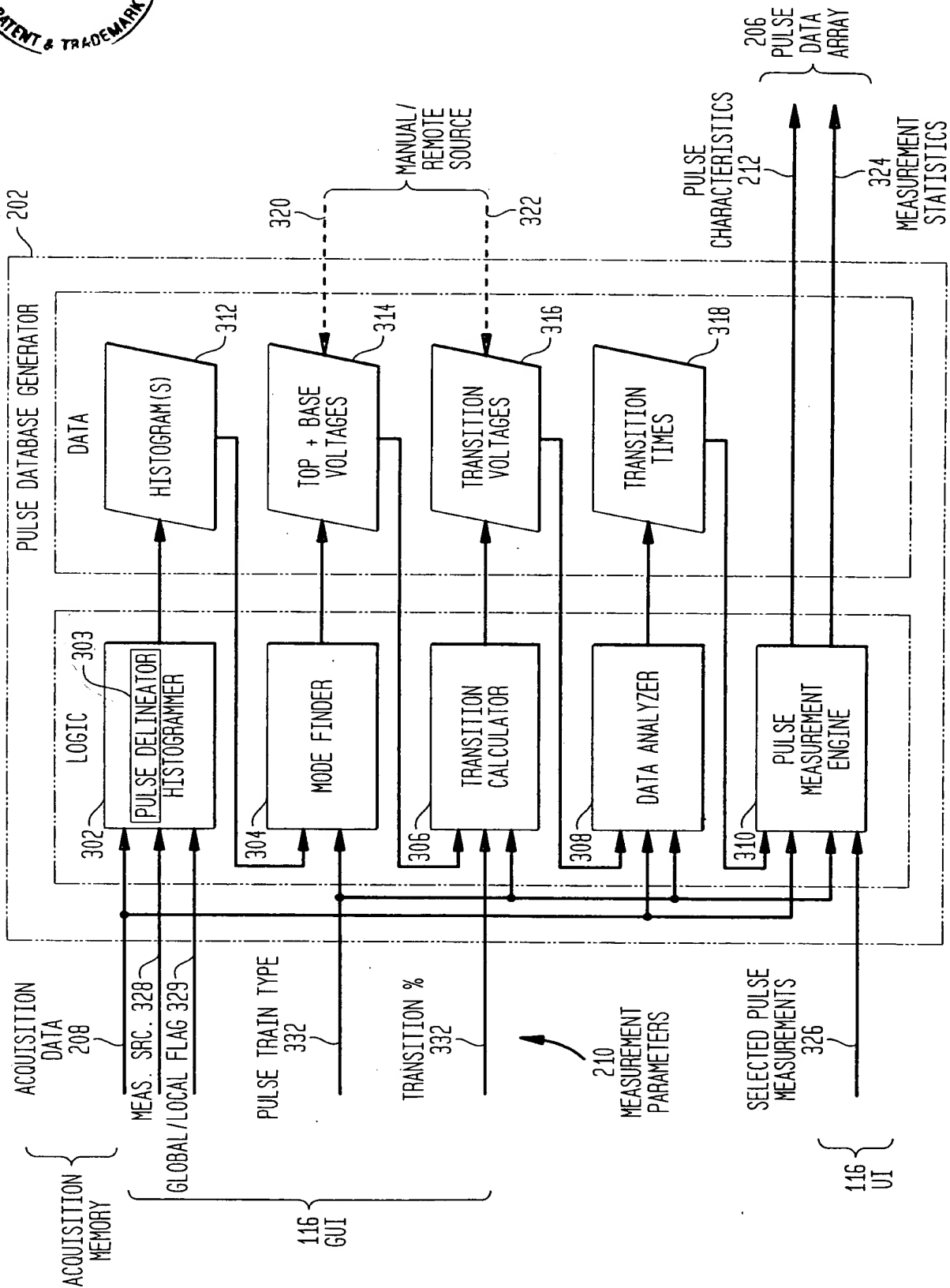
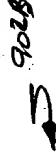


FIGURE 3

FIG. 3





PULSE SELECTION CIRCUMFERIA
DIA 100 BOX 900

Fr 6v12E 9A

9/17

FIG. 9A

PULSE SELECTION CRITERIA

906A

CENTER TIME

RISE TIME

FALL TIME

PULSE WIDTH

Vp-p

910

≠

=

>

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≥

≤

916

AND

OR

NOT

⋮

⋮

924

MS

HS

MV

HV

928

ADDITIONAL SEARCH CRITERIA

REFINE SEARCH

NATURAL LANGUAGE

STRING ENTRY

930

SAVE

RECALL

APPLY

RESET

CANCEL

932

STRING ENTRY

934

STRING ENTRY

902A

902B

900 PULSE SELECTION CRITERIA DIALOG BOX

FIG. 3

